TABLE NO | | |

STUDENT ID NO | | | | | | | | | | |

MULTIMEDIA UNIVERSITY

SUBJECT CODE _____

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2015/2016

TSE3351/TSE3571 – SOFTWARE EVOLUTION AND MAINTENANCE

(All sections / Groups)

02 JUNE 2016
9:00 am – 11:00 am
(2 Hours)

Question	Mark
A	
B	
C	
D	
Total	

Examiner 1 Signature: _____

Examiner 2 Signature: _____

Examiner 3 Signature: _____

INSTRUCTIONS TO STUDENTS

1. This question paper consists of 10 printed pages (including cover page) with 4 Sections only.

2. Attempt **ALL** questions in **SECTION A, SECTION B, SECTION C and SECTION D**. The distribution of the marks for each question is given.

3. Please write all your answers **CLEARLY** in the specific answer box provided for each question. Submit this question paper at the end of the examination.

Attempt ALL questions in SECTION A, B, C and D.

Section A

A1. Software measurement is a process to quantify an attribute of a software system and process. List and explain SIX variables with examples how we can measure software.

(6 marks)

Answer

Continued...

A2. List the THREE guidelines for selecting software maintenance measures.

(3 marks)

Answer

A3. Maintainability is the ease with which program can be corrected, adapted and/or enhanced. Why does maintainability considered an external attribute?

(1 mark)

Answer

Continued...

Section B

B1. Explain why does configuration management in software development differs from configuration management in software maintenance.

(3 marks)

Answer

B2. Programmer who created the software system is not the best person to conduct all tests for the software. Why is that so? Who should conduct the testing?

(2 marks)

Answer

Continued...

B3. We should only apply either black-box or white-box testing in any software testing. Do you agree and why?

(2 marks)

Answer

B4. Explain TWO factors that prevent organization to undertake domain analysis?

(3 marks)

Answer

Continued...

Section C

Traffic crowd-sourcing is becoming increasingly popular as a QoE (Quality of Experience) assessment tool. It is more cost-effective and flexible than conducting in-lab evaluations and can quickly provide a large and diverse pool of subjects who interact with applications and services as well as with one another in realistic everyday settings. Emerging traffic communication technologies will enable exciting new implementation opportunities.

Based on the above scenario, answer the following questions C1 to C4:

C1. Why correct use and functioning of the above software system is important?

Answer **(1 mark)**

C2. What are the FOUR factors that bear on usefulness of the above software system?

Answer **(2 marks)**

Continued...

C3. Do you think that it is necessary to implement modifications of the above traffic system as the software system evolves? Why? Please provide TWO reasons.

(4 marks)

Answer

C4. Draw a diagram to show the inter-relationship between SIX maintenance components of Software Maintenance Framework (SMF) for the above mentioned system.

(3 marks)

Answer

Continued .....

Section D

D1. What are the advantage and disadvantage of using quick-fix model? Provide an example for the advantage and an example for the disadvantage.

(2 marks)

D2. The iterative enhancement model is based on the belief that the implementation of changes to a software system throughout its lifetime is an iterative process and involves enhancing such a system in an iterative way. In your opinion, why is iterative enhancement model difficult to be applied in real-world application?

(2 marks)

Continued...

D3. Why it is important to understand programs?

(1 mark)

D4. Explain the THREE different types of program understanding strategies and distinguish between them. The three types of program understanding strategies are top-down model, bottom-up model, and opportunistic model.

(3 marks)

Continued...

D5. Describe the difference between *redocumentation* and *design recovery*.

(2 marks)

End of Paper